

Frequently Asked Questions

Environmental Mitigation Projects

October 2013

Clean/Renewable Energy Projects

Waste Heat Recovery

Q: What is the Waste Heat Recovery (WHR) project and what are the objectives for the project?

A: In April 2011, TVA entered into clean air agreements with the Environmental Protection Agency (EPA), four states and three environmental groups ("EPA Agreements"). These Agreements provide for the implementation of environmental mitigation projects that support cleaner air across the region. The Waste Heat Recovery is one of the selected projects.

Specific objectives include:

- Increasing TVA's industrial customers' access to clean energy from WHR.
- Providing highly leveraged funding opportunities for new clean energy in the Valley.
- Providing a model for future innovative and cost-effective clean energy technologies.

Q: What is TVA's role in this project?

A: TVA will provide general technical oversight and financial assistance with the project's capital funding by issuing progress-based payments during the design, construction and commissioning period. TVA will also conduct appropriate measurement and verification activities to determine the emissions reductions benefits of the WHR installation.

Q: When will TVA issue the Request for Proposal (RFP) and who will receive it?

A: TVA will send out the RFP in November 2013. And it will be sent to all TVA's industrial customers as well as the local power companies to help identify possible candidates in their service areas who would be able to participate. The RFP will also be posted on TVA's website at http://www.tva.com/environment/epa_mitigation/waste_heat_recovery.htm

Q: How will TVA ensure a fair bidding process for the project(s)?

A: First, all eligible parties will be given the same information to help them create their proposals. In evaluation of the proposals, TVA will use a common, numeric scoring system so that each project is evaluated on the same criteria and a total score will be computed for each proposal. Using these scores, TVA will establish a competitive range. TVA may, in its discretion, request clarifications or conduct discussions with any or all Proposers, or only those Proposers in the competitive range. Specific elements for evaluation are found within the RFP.

Q: Will energy generated from the WHR project have to be consumed onsite?

A: It is preferred but not required that the generated energy be consumed on site. Responses that include total consumption of all energy produced by the waste heat recovery system will be evaluated as having an advantage over responses that have excess generation not consumed on-site. If any energy is not consumed by the host, a separate Dispersed Power Production agreement between TVA and the host site would need to be developed.

Q: Is this available to all industrial customers, whether distributor or direct-serve?

A: Yes; all customers with greater than 5 MW demand

Q: Will the generated energy be purchased by TVA, and if so, at what rate?

A: Only if not consumed by the host and exported to a third party (see question above). The rate will be determined by Dispersed Power Production Agreement negotiations.

- Q:** **Can customers participating in the Waste Heat Recovery Project also qualify for participation in the Energy Right Solutions for Industry >5MW (ERSI >5MW) and be offered assessments to identify potential savings?**
- A:** Unlike the ERSI >5MW, customers participating in the EPA WHR Project will be responsible for arranging the initial assessment. Customers will have the option of participating in the ERSI >5MW program which could cover the initial engineering assessment for potential projects, but not in both programs.
- Q:** **Are directly-served customers eligible to receive an assessment to identify opportunity for WHR projects, similar to other process assessments TVA provides?**
- A:** No - Customers choosing to participate in the EPA WHR Project will not receive an initial engineering assessment. The customers will be required to submit a response to the RFP on how and where they would use waste heat to produce electricity, estimated amount of electricity produced, emissions reductions, project cost share and pertinent information regarding the project.
- Q:** **Will the EPA WHR incentives be in addition to ERSI >5MW incentives? If yes, can they receive both or will it be limited to an overall cap of 70 percent?**
- A:** No - The EPA WHR Project is a standalone project separate from the ERSI >5MW program; therefore, all project funding, resources, and benefits are accounted for under the EPA Mitigation WHR Project. If multiple projects are submitted and exhaust all funding for mitigation projects under the EPA Agreement, then the ERSI >5MW program may choose to select other waste heat projects as potential projects. Customers have the option of choosing between the EPA WHR Project or ERSI >5MW path. The cost sharing requirements of the submitted proposals will be an evaluation factor under the WHR Project.
- Q:** **The fact sheet states TVA is looking for 5 MW and is budgeting \$7 million over five years. Does that mean an incentive of $7 / 5 = \$1.4$ million per MW incentive?**
- A:** Potentially - the \$7 Million committed to the WHR project is to cover all aspects or portions of the project requirements such as , engineering design, equipment purchase, installation, and commissioning. The 5MW is identified as the minimum target goal for the WHR Project; if the project or projects selected exceed the 5 MW goal then the funds will be used in the most cost-effective approach to reach the goal.
- Q:** **How many customers or how many projects will receive an EPA WHR incentive award?**
- A:** It is yet to be determined - the selection of the project or projects will be determined during the proposal review process; the WHR Project is not set by the number of customers or projects. The project could be a single 5 MW project and consume the full amount of \$7 Million or it could be multiple projects of varying size with the share of \$7 Million as necessary by the project host to develop and complete the project.
- Q:** **Is it okay for a project to reach completion prior to the five-year deadline?**
- A:** Yes - the 2017 date is the latest the project must be completed and in operation – earlier completion is acceptable and encouraged. Projects will have an Estimated Useful Life of at least twelve years. Measurement, evaluation and reporting may go beyond the January 2017 date.
- Q:** **Will Industrial customers selected be required to enter into any contracts or agreements?**
- A:** Yes, a contract will be required between the customer and TVA before any funds can be allocated. Also, if not all the electricity is consumed onsite and excess electricity is sold back to TVA or the Local Power Company, the industrial customer must agree to a Dispersed Power Production Agreement and an Interconnection Agreement. Potential also exists for a Standby Rate contract depending upon the size of the project and the impact on TVA and/or the Local Power Company. Information on the agreements will be included within the RFP.
- Q:** **How will TVA evaluate the Request for Proposal responses?**
- A:** TVA will evaluate the proposals using numeric scoring and a total score will be computed for each proposal. Using these scores, TVA will establish a competitive range. TVA may, at its discretion, request clarifications or conduct discussions with any or all Proposers, or only those Proposers in the competitive range. Specific elements for evaluation are found within the RFP.

Q: How can I learn more information about the WHR project?

A: TVA has information about the WHR project on its website at http://www.tva.com/environment/epa_mitigation/waste_heat_recovery.htm. In addition, those who are interested my e-mail wasteheatrecovery@tva.com with questions.

Q: To be eligible for the WHR program do participants just need a contract of 5MW or larger, or does their actual load need to be 5MW or larger?

A: Eligible customers are those that have a contract demand of 5 megawatts or greater. This is consistent with our Energy Right Solutions for Industry (>5MW) program customer eligibility.

Q: Below is an excerpt from the RFP for WHR. We'd like to know who the pre-qualified contractors are and what are they pre-qualified to do?

Pre-qualified to prepare a response only or response and scope of work for the entire project?

Applicants are responsible for all costs associated with the conduct of, and preparation of documentation for, the appropriate level of environmental review. If the provisions of NEPA apply, applicants may:

- a. use TVA as the preparer;
- b. use a TVA pre-qualified contractor; or,
- c. proposes a contractor for the project by submitting the contractor's qualifications for evaluation and determination of acceptability by TVA.

A: This section refers to pre-qualified contractors that prepare National Environmental Policy Act (NEPA) reviews and related documents. TVA does have a list of pre-qualified contractors that can prepare NEPA and other environmental documents.

Q: Are there any systems in operation that we could see or plans that we could look at?

A: There are a number of systems throughout the United States. The sources listed below contain information on some of the existing systems that you may be interested in seeing.

- Waste Heat Recovery: Technology and Opportunities in U.S. Industry, BCS Incorporated, Report to U.S. DOE Industrial Technologies Program, March 2008. See: http://www1.eere.energy.gov/manufacturing/intensiveprocesses/pdfs/waste_heat_recovery.pdf.
- The U.S. Clean Heat and Power Association (UCHPA) See: www.uschpa.org.
- Heat is Power trade association. See www.heatispower.org

Q: Does TVA have any preferred partners in this field?

A: TVA does not have preferred partners in this field, however here are a few of the nationally known technology providers in waste heat recovery:

- Ormat
- Kirell Energy Systems
- Primary Energy Ventures
- UTC Power

Q: If an entity has a wastewater treatment plant that currently flares biogas and is looking at utilizing this gas for electric generation, would this type of facility be eligible for consideration under the RFP?

A: Stand-alone direct firing of biogas for electricity generation is not considered waste heat recovery and would not qualify under this solicitation. However, if the waste heat (exhaust gas) from biogas fueled reciprocating engines is recovered and converted to electricity, this portion of the generation would qualify under this solicitation.